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## EDITORIAL



## TOO YOUNG AT SIXTEEN?

Ever since the re-allocation of Amateur Station Licenses in the post war era the Institute has been asked "Why cannot a person be licensed to operate an Amateur Station at the age of sixteen years?"

This is a serious subject and one that has two "schools" of thought—the old and the new. By the old is meant people of so called "mature age and judgment," and the new, people mature in age but whose tenure could be said to be considerably less than their more aged brothers insofar as experience in the affairs of the world is concerned.

In deliberating on a decision of this nature one must have due regard to these two groups of people, because in a progressive and scientific world such as the past two generations have been born into, it is imperative that the newer group has a say, tempered if necessary by the more experienced voice of the older group.

Everywhere in the world today young people still at school take a keen interest and active part in the affairs of all kinds of clubs and institutions, and they are encouraged to do so; they have advanced by some years their activities, compared to their forebears at the same age.

And why? Because educational and living standards have changed with the passing years. With the advent of the electronic and electro-mechanical age, school curriculums cover a wider sphere of learning, there are more basic principles to learn, the older ones must sometimes be modified to fit men for modern learning—all in all, the modern scholar must be more knowledgeable—and is in fact more so—than the scholar of two decades ago. One has only to heed the oft spoken words, "I don't know what he is talking about, I never learned that at school in my day"—or even just listen to the modern scholars talking among themselves.

By and large, the older group—composing the parents of today—

countenance all sorts of activities by their offspring—club activities, photography, chemistry, dancing, in fact anything that assists their educational advancement and at the same time serves as a relaxation from their normal school study periods.

And yet, without any authenticity, you will hear the older group—and to be fair, the newer group, too, sometimes—say that scholars in their early teens should not take up radio as a hobby, particularly to become an Amateur Operator, because such an activity interferes with their studies! "To grant an Amateur License at the age of sixteen," they say, "is too young because studies continue even after completing the normal school terms up to intermediate and leaving standards."

This thinking is utterly wrong and based on fact!

The study of radio takes in basic theory of electricity and magnetism and mathematics almost entirely in one form or another, and, having gained a license, a scholar operating a station on the air gains stupendous insight into the subjects in an advanced form with the added phase of geographical learning thrown in for good measure.

The solution of the problem is simple enough. If a scholar has the knowledge and temerity to pass an A.O.C.P. examination at the age of sixteen he should be granted a license.

The key to the problem of interference to studies is one of parental control—nothing else—and should be subjugated to the right perspective. Parents should not permit their son or daughter to "play" radio at the expense of studies any more than they are prepared to permit them to attend clubs, go dancing, or "play" at any other hobby. But relaxation one night per week at least, is the forerunner of a sound, logical, healthy and contented mind.

Grant an Amateur License at the age of sixteen! Why not?

FEDERAL EXECUTIVE.

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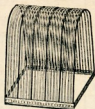


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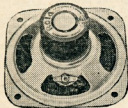
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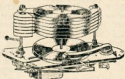


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# Some Pointers on Good Quality Phone

BY R. DOWLING,\* VK3XD

Herewith are a few hints for phone transmission if you want a pat on the back for good quality signals.

All power supplies to be well filtered, plenty of buffering with amplifiers, Class C or Class B, doublers, no regeneration of any stage in itself or to other stages; decouple the stages in your power supplies by good chokes and condensers.

The buffering with amplifiers prevents frequency modulation of the carrier, and/or carrier shift. (These between oscillator and final stage.) In other words the carrier beat note should never change, as observed on a receiver with the b.f.o. in operation.

The Class C buffers should be perfectly neutralised (not doublers). The final modulated amplifier should be capable of perfect neutralisation. Feedback in the final amplifier will be reflected in non-linear modulation (almost like single side-band). This will cause audio amplitude distortion of the signal.

The Class C final, if modulated, should be biased to about 2.2 times cut-off and should have about 25% more grid excitation than for c.w. operation. Lack of drive (also some in reserve) will also cause non-linear modulation. (One side of carrier modulated more than other, or modulated non-symmetrically.)

The tubes used in the final Class C modulated amplifier must have a reserve of filament emission, sufficient to allow the peak plate current to double during 100% modulation. This, if not done, will also cause non-linear modulation. (Don't over-couple your antenna with low plate voltage to get more output, or don't worship the amplifier's milliamperes, if you do, you will kill the tubes.)

The modulators, if Class B, should be assisted by a swinging choke in the power supply filter. This means that with variation of plate current on the tubes, between standing current and maximum audio drive, the more the plate current. The filter should work to cope with varying loads for good voltage regulation which means that a swinging choke is a component which varies in its inductance according to the varying currents passing through the windings, viz., the choke on light current loads no modulation (choke input filter), and when the load is heavy (modulating, more plate current rise) (condenser input). This choke then needs an assistant, a 30  $\mu$ h. choke, and large capacity filter, 8  $\mu$ F. or more on the output of the supply to bring about good decoupling and preserving audio response.

Good shielding or isolation of the r.f. portion from speech equipment. No r.f. to get into speech equipment whatsoever. If it does, it cancels out the audio causing overloading, blocking, whistling or singing, and instability of audio.

Completely shielding the speech amplifier is preferable to shielding the r.f. section of the transmitter. This is hard to believe, but personal experience has

shown to me that unwanted coupling and r.f. to audio equipment increase directly with the frequency used. When operating on 20 metres, the transmitter, for a given degree of operation with good isolation resulting in good signals or trouble-free ones, will be almost useless on 10 metres due to feedback troubles.

Suggest getting the rig going on 10 metres first for 10, 20 and 40 metre operation if good signals are wanted on 10 metres. The feedback from a 20 metre transmitter for a given degree of isolation (mediocre) is eight to 10 times as evident as in a similar transmitter operating on 120 metres, and eight times as much shielding and trouble-precautions are necessary to isolate audio from r.f. troubles.

[A separate power supply for the speech amplifier and decoupling through a 600 ohm line to the drivers for the modulators pays dividends in this respect.—Tech. Ed.]

R.F. goes everywhere, regardless of paths of low or high resistance, not

necessarily the shortest path to audio circuits. R.F. in low level audio circuits causes all kinds of troubles.

As you know, the actual process of modulation is the mixing (superimposing) of audio and radio frequency (carrier) or superimposing audio (a.c. on d.c. (r.f. carrier)); a complex business. In your case, this all occurs in the plate circuit of the Class C r.f. stage. The term "plate modulation" is not strictly accurate, but power modulation is more descriptive of what goes on.

Now this final stage. It is possible that your carrier, with no modulators connected, could be putting out a distorted wave form due to wrong Q of the final tank circuit. To correct this, you must have the stage operating to give you more output with coinciding minimum plate current, and until you get this condition in the final, you cannot load properly with the antenna to maintain that large reserve (flywheel effect) necessary to produce a signal with effective modulation, whereby the tube filament emission has sufficient reserve to permit the plate current to double during 100% modulation. If this is wrong, we then come back to non-linear modulation, splatter, distortion. "So do ye ken?"

## Simple Conversion of AR301 to 144 Mc.

BY D. C. HABERECHT,\* VK2RS

Before detailing the necessary minor alterations, a few words regarding the original receiver will not go astray.

The AR301 formed part of airborne equipment, A.S.V. type, operating on frequencies between 170 to 178 Mc. The design includes four i.f. stages at 30 Mc., using 6AC7 valves, the r.f. end comprising of two 954s as r.f. amplifiers, and two 955s as mixer and oscillator.

These receivers can be obtained through disposals stores at a reasonable cost and lend themselves particularly well to conversion to 144 Mc. The whole conversion should not take much more than an hour to complete.

### ALTERATIONS TO WIRING

Firstly remove the original power supply wiring and if you so desire, remove the power transformer and choke, thus leaving ample space for a self-contained power supply. Then check over filament and h.t. wiring for breakages or corrosion, etc.

From the junction of resistors marked R16, R21, etc., located on the terminal strips connecting the 6AC7 i.f. stages, wire in a 5,000 ohm wire wound potentiometer. This control conveniently serves as an i.f. gain control, as this receiver is not equipped with a.v.c. This will prove useful in controlling some of the stronger signals.

The only other stage requiring alteration is the last 6AC7 stage following the 6BH detector stage. This 6AC7 was originally wired as a cathode follower and can be quite simply converted to an audio voltage amplifier. To do this, simply remove the cathode resistors and replace with a 5,000 ohm resistor, by-passed with a 25  $\mu$ F. condenser. Then from the plate of this valve, remove

the 500 ohm resistor and replace with a quarter meg. resistor; next connect to this plate a 0.1  $\mu$ F. condenser to a half meg. volume control, taking care to shield the leads to this control. The return lead from the control is then brought back to the grid of the spare socket immediately adjoining the last 6AC7 stage. This socket is then wired in the conventional manner as an audio power amplifier using any available output valve.

The only other alteration necessary is to remove the co-axial lead from the switching motor and plug it into one of the spare co-axial plugs on the front panel.

### FREQUENCY COVERAGE

If you are lucky enough to have access to a grid dip meter, little difficulty should be experienced in re-setting the stages to cover the 2 metre band. Should a grid dip meter not be available, a simple absorption meter will do the job equally as well, but will be more painstaking.

In order to get the oscillator stage tracking over the range from 114 Mc. to 118 Mc., a small air trimmer is wired directly across the oscillator coil. Then adjust this stage in steps, keeping the aerial and r.f. circuits peaked, until a noticeable drop in noise level occurs when you inductively couple the wave-meter to the second r.f. stage or mixer, making sure to use as little coupling as possible in giving you sufficient indication.

A final check on alignment can be obtained either from a signal or from car ignition noise.

This receiver, with these alterations, should prove a very successful and worthwhile inclusion in any v.h.f. man's shack, and most certainly offers a good and inexpensive means of covering the 2 metre band.

† Room 17, Central Chamber, Kiwla Street, Albury.

\* 6 May Street, North Fitzroy, N.7, Vic.

# TELEVISION MADE EASY

## Part ix.—Outline of Color Television

BY KEN WALL† AND JOHN JARMAN,\* VK3ADA

So we have learnt how a television set works—and why it sometimes does not, but what is this color television we hear so much about? Indeed, this subject has received so much publicity in the past two years, that this series would be incomplete without mention of it. Let it be understood from the outset, however, that no color system has yet been perfected. In other words, color television is still in its experimental stages, and in this concluding article we will discuss the main trends of overseas experiments.

How often have we wondered how colors could possibly be transmitted by radio? Well, strictly speaking, they are not. In every color system the picture is transmitted just as if it were in plain black and white, the color being applied artificially after reception. The whole "mechanism" of color television can be summed up as a means of ensuring that this artificial coloring is performing correctly. Its operation depends on two elementary principles, viz.:

1. Light of any color can be reproduced by the "blending" of three primary colors—red, green and blue.
2. Conversely, the light reflected by any object can be "split-up" into these primary colors, in different proportions, for every reflected color.

Now white, for example, is composed of the whole range of yellow, a combination of red and green, and black is the absence of the whole three. By means of color filters, these primary colors can be separated, so that a red filter allows red light to shine through it, but "blocks" all other colors, and if placed over the lens of a camera, the picture on the photograph only the objects whose colors contain the primary, red. Likewise, blue and green filters "pass" only blue and green light, respectively, and when a scene is to be televised in color, here is briefly what happens.

Firstly, all the red components are "extracted" by a red filter, transmitted as one group, and after reception, tinted red. Likewise, all the blue components are extracted from the same scene, by a blue filter, transmitted as one separate group, and tinted blue after reception. The green components are treated in the same way.

In the receiver, we therefore have three incomplete pictures, each of a uniform color. By combining them, we reproduce the original picture in full color. At once we see the essential feature of color television is the transmission of three separate sets of detail (which, for convenience, we will call "images"), instead of one, and the problem confronting scientists is how to do this, without increasing the bandwidth, or sacrificing picture quality. Remember, the red color is applied after reception. Each image is transmitted in black and white, or "monochrome" as it is termed.

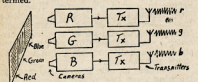


Fig. 1—Transmitting Set-up.

To illustrate the principles of color, we will first consider a purely imaginary set-up. Fig. 2 shows three television cameras, each focused on the same object, which is a rectangular board, painted red, green and blue. Camera R is fitted with a red filter so it receives only red light. Similarly, cameras G and B are fitted with green and blue filters, and respond only to the color light applied respectively. The images formed in the three cameras will therefore be as shown in Fig. 2.



Fig. 2—Images Transmitted.

Now suppose each camera be connected to a separate transmitter, on a different frequency. Our picture will therefore be transmitted as three separate signals—R, G, and B.

For reception, we will use three television receivers, tuned respectively to the three frequencies as in Fig. 3. Receivers R, G, and B, receive the image, shown in Fig. 2a. Likewise G and B will reproduce the images in Fig. 2b and 2c respectively. Each of these images is in monochrome. Let's color them.

Over the face of cathode ray tube R, we place a red glass, and likewise, we will fit green and blue glasses on tubes G and B respectively. We now have three colored images. All that remains to be done is to combine them.

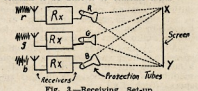


Fig. 3—Receiving Set-up.

Now there is a type of cathode ray tube available whose face glows with such high brilliance that if fitted with an optical lens, it will project its image on a distant screen, just like a magic lantern. Let us fit this type of tube, with lens, in each receiver so that each of the three projected colored images (glass) on to the screen XY. The three colored images will now combine, to reproduce the original picture in full color.

As a further illustration, suppose the televised object was yellow all over. The images transmitted would now be as shown in Fig. 4.



Fig. 4—Images Transmitted for Yellow Object.

In place of the colored glasses, we can use tubes with colored phosphor coatings, thus producing the required colored light beams. Now for perfect color reproduction (or "color fidelity")—

1. Color applied to each received image must be identical with that "accepted" by the corresponding filter on the camera.
2. The brilliance, for a given signal strength must be the same in each receiver tube, otherwise colors will not be correctly balanced.
3. The three images projected on the screen must coincide perfectly with each other. This is called correct "registration" of color.

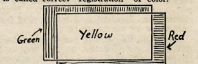


Fig. 5—Faulty Reproduction.

Fig. 5 shows an example of faulty color registration, where our yellow object appears as two; one in red, the other in green. In the preceding illustration, each image was transmitted continuously. In other words, the whole three were transmitted simultaneously, so that this is called a "simultaneous" system, requiring three times the bandwidth of a monochrome signal. Such systems (with modification) have been tried, but rejected.

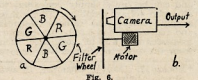


Fig. 6.

An alternative method, requiring only normal channel width, is to transmit the images alternately, in quick succession. Let us look at Fig. 6. Using only one camera, suppose we mount our color filters in a wheel (a), and set it revolving in front of the camera (b), and synchronised so that each field is scanned through a different filter segment. During scanning of the first field, for example, a red filter is in front of the lens, so that only the red components of the picture are "seen" by the camera. During the next field, however, a green filter segment is in front of the lens, so that only the green components are transmitted, and likewise, every third field contains only the blue components. The camera images are, therefore, transmitted in sequence so that this is called a "field-sequential system."

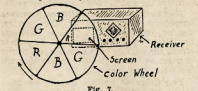


Fig. 7.

Now look at Fig. 7. In front of the receiver screen (which is one single c.r.t.) a color wheel revolves, similar to our aforementioned filter wheel, and synchronised with same, so that while a red filter is in front of the camera lens, a red glass covers the receiver screen so that all the red components, having been "passed" by the filter, are also "passed" in the received picture. Likewise, the green and blue components are reproduced in their respective colors and the position of each image is repeatedly reached before the observer in such quick succession that they appear to "blend," reproducing the original picture in full color.

In other words, our old friend "persistence of vision" is being further exploited, but wait! This has its limitations. Consider our yellow object (Fig. 4) received as two images, red and green. These will appear to blend, only if both occupy the same position, close to the retina of the eye. Now, if the eyes are moved, this will not be the case, so that object will appear in red and green, as shown in Fig. 8. This is called "color break-up." Movement of the object gives the same effect, but in this case, it is called "color fringing." Take also the case of a large area of primary color (say, sky, or green grass). Since each primary color is scanned only once in three fields, it will appear on the screen only 20/3 of the original (approx.) times per second, giving severe flicker.

Each of these defects, however, can be overcome by stepping up the field frequency, and an American Company, using this system, achieved an acceptable result, by increasing it from 60 to 144 fields/sec. To maintain the permissible bandwidth, however, the number of lines per frame had to be reduced from 525 to 405.

We see, therefore, that in a sequential system, each primary, instead of being transmitted continuously, is "sampled" rapidly. For convenience, we may say that in such a transmission keeps "changing color." In the field sequential system just described, it changes after every field, though in another system, it changes only after every line.

In the camera, a special optical system focuses the three images on to the one target, side by side. As the scanning beam travels across, it scans one line of each image. Since it is also descending vertically, however, it will scan the next alternate line of each image. For example, if it scanned line 1 of the green image, it would scan line 3 of the blue, and line 5 of the red.

The receiver uses a special tube, whose face has three phosphor coatings, side by side, corresponding of course to the three images on the target, and each glowing a different color. A special optical system "combines" these three coatings, so that to an observer, they appear to coincide, forming one frame in which the lines are reproduced in the order green-blue-red, green-blue-red, etc. This is called the "interlaced" system, and since it uses the same line and field frequencies as the standard monochrome system, its pictures are received on black and white or existing receivers, without modification. It is therefore classed as a "compatible" system.

It has, however, some grave disadvantages. Any line of pure primary color is scanned only once in six fields, and in a 60 field/sec. system (as used in American experiments), it appears only ten times per second, causing "inter line flicker," and apparent vertical movement of the horizontal lines, called "line crawl."

Before dealing with the next color system, let us review a little elementary theory. In

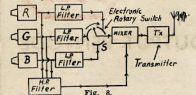
†172 Johnson Street, Maffra, Victoria.

\*All142 L.A.C. Jarman, J. B., c/o A.R.D.U., R.A.A.F., Woomera S., South Australia.

article 3 we briefly mentioned the "picture element," which is defined as the shortest distance along a scanning line, in which the shade can change from white to black. In a television picture is therefore composed of a row of elements, which correspond to the grain particles in photographic film and the dots, which constitute a printed photo (in a newspaper, etc.). For convenience, we will call these elements "dots."

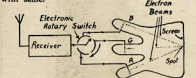
Now examine a newspaper photo carefully and note that at normal viewing distance, the individual dots cannot be seen. They appear to merge into areas of uniform shade. Now, if these dots were of different colors, the viewer would not see their individual colors, but, instead, there would be another method of blending colors. Let us see how this can be used in television.

We have already seen that in a sequential system the received picture is continuously changing color, so rapidly that the viewer apparently sees the color of only one picture. So far we have tried changing the color after every field, and after every line. Having seen how each line is received as a row of dots, let us now try changing the color after every dot!



Consider the three cameras in Fig. 1. Instead of connecting each one to a separate transmitter, let us connect them alternately to the one transmitter as in Fig. 8, by the rotary switch, so that at any instant, only one camera is on the air. Momentarily ignoring the filter circuits, suppose S is an electronic switch, operating at such a high speed, that each camera is on the air only for the duration of one dot! Yes, we have done it! Each line is transmitted as a row of dots, each representing a different primary color.

For reception the arrangement in Fig. 3 can be modified, so that the three cathode ray tubes are alternately connected to the one receiver, through an electronic switch similar to that in the camera unit, and synchronized with same.

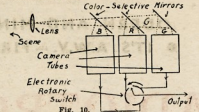


In place of the three tubes, however, we can use the special tri-color tube, illustrated in Fig. 9. The tube has a screen with a grid of a screen with special phosphor coating, which can glow in either red, green, or blue, depending upon the angle, from which the beam strikes it. Beam (A) is placed so that wherever its beam strikes the screen, it will produce a spot of blue fluorescence. Likewise, green and red beams are placed so that wherever they will always produce spots of green and red, respectively.

The three beams scan the screen concurrently, so that at any instant, all beams are directed at the same point. Only one of them, however, is active. In other words, the three grids are biased so, so that at any instant, only the one connected to the receiver will give its beam sufficient intensity to produce any visible fluorescence. When a beam strikes a spot of light, whose color is rapidly changing, so that each line of the picture is "painted" with a row of dots of different colors. In white line, for instance, the dots would run in the order: green-red-blue, green-red-blue, etc., each dot so small that at normal viewing distance, they would appear to merge into the resultant—white.

This method is therefore called the "dot sequential" system. In actual practice, the three-camera arrangement in Fig. 8 is replaced by the apparatus in Fig. 10, which was three cameras, but only one camera is active. Color filtering is performed by three special mirrors, each reflecting only one primary color and allowing the other two to pass through it. They are therefore called "color selective" mirrors. This system is "compatible," i.e., its pictures can be received in black and white, without extra equipment. Furthermore, this system lends itself to a unique modification.

Readers familiar with color printing will know that a color picture is printed in four colors, viz., three primary colors and a fourth in black and grey. The fourth "impression" serves two purposes. Firstly, it brings out the fine picture detail more clearly, and secondly, it covers up minor faults in color registration (Fig. 5).



In effect, it outlines every object in black ink, and it achieves this by simply reproducing all the finer details in black and grey, leaving only the larger areas in color.

Now, in a sequential system, the same effect is achieved electronically. Remember, the finest picture details will produce the highest video frequencies. Look back at Fig. 8, we now see what the filters are for. The low-pass filter, connected to each camera, blocks all frequencies above 4,000 cycles, so that only the lower video frequencies reach the switch. The remainder is "collected" by the signal band filter, mixed, and sent to the signal band of the switch, and will therefore be continuously transmitted, irrespective of which camera is on the air.

In the receiver, therefore, these higher video frequencies are applied to all electron guns, irrespective of the colors represented. Consider the effect of each negative half cycle (above 2 Mc.) will cut off all three electron beams, so that the reproducing spot (i.e. the spot that changes color) will momentarily turn black. Each positive half cycle, on the other hand, will release the three primary colors, in the correct proportions to produce white, or grey. The net result is that all color details, about eight dots in width, are reproduced in black and grey and only the larger ones in color. Hence the above 4,000 dots per line, eight is only a small percentage.

This principle is applicable only to the dot sequential system, where there is no distinction between the dots, along each line. These dots have further significance, which is worth mentioning, for the assurance of pictorial detail, or "resolution," as it is termed. The more dots per picture, the clearer will be the background "close-ups" not being appreciable.

For comparison, 35 mm. theatre film uses about one million dots per frame; 16 mm. home-movie film uses about 200,000 dots per frame; home-movie film uses only 50,000!

And television? Let us first explain. Each dot represents half a cycle of video current, so that the number of dots per frame is limited by the bandwidth of the signal, so that although the height of each dot is fixed (equals thickness of scanning line), the width of each dot is the highest video frequency the system can handle. Each dot is therefore oblong rather than square. (Read the article on resolution.)

American television therefore achieves resolution of about 200,000 dots per frame, in monochrome. In the field sequential color system, this reduced to about 4,000 dots per frame. In a sequential system, it's appreciably higher than this, whereas the dot sequential system achieves the same resolution at only 200,000 dots per frame. Australian television should have greater resolution than its American counterpart, since we use a lower field rate while allowing a greater bandwidth, so the number of elements per line can be increased proportionately.

Of all color systems, the dot sequential seems the most promising for color reproduction. Firstly, in both camera and receiver, there are three separate scanning beams, introducing no difference in field rate or registration, and color balance. In white, and in flesh-tints, the slightest misbalance can ruin the picture. Further, the dot sequential system in this system is extremely expensive to manufacture, nor does it lend itself to mass-production.

The field sequential system, on the other hand, uses only one scanned surface in both camera and receiver, nor does it rely upon color filters, except for color reproduction, but, purely upon color filters, which, being an older invention, have naturally reached a higher state of development. Color balance, and fidelity, are therefore achieved automatically, and with much cheaper apparatus than the other two systems. Finally, these reasons that the Federal Communications Commission (U.S.A.) approved of the field

sequential system, back in 1950, in preference to the other methods.

These advantages, however, the receiver must use mechanical color control (although adaptable to electronic methods). This is inconsistent with modern practice, which tends to eliminate moving parts. In any case, this system is incompatible, inevitably using non-standard line and field frequencies so that television would make all existing receivers obsolete.

The line sequential system suffers inherent disadvantages, such as the need for a separate vertical resolution, and seems incapable of much improvement.

In view of the problems imposed by color control, it is doubtful whether color television is really necessary. Unfortunately, the answer is "yes," for two reasons.

Firstly, for educational purposes. Chemistry students, for example, can learn little, by watching experiments, or demonstrations by television, unless they also see the color changes in chemical reactions. To medical students, color is equally important, in the television of a surgical operation, and the arguments can be applied to almost every branch of science.

The second reason is less apparent, but equally important, and best understood by comparing television with a newsreel. In the latter case, the film, before screening, can be examined, and the strips finally selected for inclusion can be arranged in the order of their interest, the most entertaining, and pieced together, to be further enhanced by a rehearsed commentary.

Now in television, where the programme must go on from one hour to the next, the "chance" does not exist, and in any unprepared type of programme, it often becomes very difficult to hold the attention of the audience. When a programme is interrupted by an interesting happens, yet, cameras must remain trained on the scene, in anticipation. This is why, for educational purposes, by providing extra "channels" of interest.

During a cricket match, for instance, color would allow the audience, during lulls between runs, to see the study of the batsman, and to say nothing of dress fashions amongst the spectators. In general, color would maintain the interest of the audience, and if the programme material failed. There is ample motive, therefore, for scientists to perfect color television, however long this may take. The first color television, which was first screened as early as 1929, but not perfected until 1929, was not a success. It was so badly received, that it literally disgusted their audiences. Color television is going through this same phase, and, although it will surely be a success, it is hard and just as common as talking pictures are today.

At the end of 1951, America suspended all work on color television, to conserve materials for defence needs. Meanwhile, it is quite probable that electronic research in other fields will provide the clues to perfect a color system far superior to those described here.

Although attention has been concentrated upon sequential systems, there is still hope for a color system that would avoid the most fickle problems. They were originally put aside because of the excessive bandwidth with which they were associated, and, still, without sacrificing picture quality, are still being sought. For instance, some scientists are working on the possibility of using a signal there are certain odd frequencies never used, and are investigating the possibility of using a color tube, to carry a camera and receiver for color. Now, Britain has been asleep, during all this research work, across the water. She has done some very important color experiments.

Well fellows, that is the story of television. We hope you have found these articles interesting, and may help to prevent it, when television comes to Australia, they will have admirably fulfilled their purpose. Meanwhile, we will keep the subject of color developments in television (described in most radio magazines), and remember, our query service will still continue, so keep those questions and queries coming. If you have any questions, or queries, they are answered directly, by mail, and any that may interest fellow enthusiasts are answered in this magazine, or copy being submitted to this magazine, to be published anonymously, when space permits.

Queries need not be confined to the subject of color television. We have received many interesting questions have been received from readers, concerning aspects of television of which we have not had time to deal with. We had purposely excluded from these articles for simplicity. We strongly encourage readers to send us their queries, and we will try to be a measure of your interest in the subject, and we are delighted to answer them.

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**2AJQ—** J. S. W. Edge, Wallace St., Coolamon.  
**2AJX—** H. R. Barrington, 243 Anzac Pde., Kingsford.  
**2ANZ—** J. P. Shortall, 28 Lower Wycombe Rd., Neutral Bay.  
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**3NV—** G. E. Nixon Smith, "Edgemont," Derrinallum.  
**3SV—** J. F. Howarth, Faraday, via Chewtown.  
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**3ABT—** Dr. J. D. Blackwood, 10 Mooltan St., Flemington, W.I.  
**3ACA—** J. A. Adcock, 75 Gordon St., W. Coburg.  
**3AFT—** H. Gribbon, 35 Churchill St., Morwell.  
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**4JK—** J. H. Cruick, Kilcay Rd., Woodford.

## South Australia

- 5OB—** W/O Baker, L. O. C., R.A.A.F. Station, Mallee.  
**5RS—** R. S. Edgar, 34 Lily St., Blair Athol.  
**5SC—** E. K. Broadbridge, 161 Cogglin St., Brompton Park.

## Territories

- 1SD—** R. J. Hosencon, Heard Island.  
**1PN—** A. M. Perriman, Heard Island.

## ALTERATIONS

- VK—** New South Wales  
**2DW—** Lot 187, Dargan Street, Bass Hill.  
**2GX—** 6 Macleay Street, North Ryde.  
**2LX—** 285 Ocean View Road, Ettalong.  
**2OT—** 38 Hebbury Street, Newcastle.  
**2RS—** Room 17, Central Chambers, Kiewa St., Albury.  
**2TS—** S.S. "Iron Kimberley," c/o. B.H.P. Ltd., Newcastle.  
**2ABT—** Electrical Engineer, Ulan County Council, P.O. Box 91, Coonabarabran.

- 2AFD—** Ocean Avenue, Woonona.  
**2AFQ—** Vensal "Syngale," c/o. Box 3787, G.P.O., Sydney.  
**2AIL—** 11 Wesgarth Street, Turner, A.C.T.  
**2ASM—** 10 Monash Parade, Dee Why.

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- 3GY—** 11 Beatrice Street, Burwood.  
**3IT—** 6 Olinda Avenue, Olinda.  
**3IZ—** High School, Yarram.  
**3JX—** c/o. 3HA, Hamilton.  
**3OD—** Brighton Street, Frankston.  
**3ADG—** 2 James Avenue, Righett, S.E.I.  
**3AFW—** 25 Unley Grove, Ascot Vale.  
**3AMR—** 380 Barkly Street, Footscray, W.I.  
**3AL—** Victoria Street, Kerang.  
**3ARB—** c/o. 21 Bennett Road, Horsham.

## Queensland

- 4CI—** 58 Musgrave Road, Red Hill, Brisbane.  
**4DE—** Married Quilrs, "Camp Magnetic," R.A.A.F. Townsville.  
**4ES—** 9 Paxton St., Holland Park, S.E.3.

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- 5MA—** Cr. Barrow and Eighth Sts., Renmark.  
**5PL—** 2nd Street, Kent Town, Adelaide.  
**5GL—** Olinda Street, Brighton.  
**5RD—** 415 Seaview Road, Henley Beach.  
**5VJ—** Lincoln Place, Port Lincoln.

## Western Australia

- 6LK—** 35 Schmitt Road, Kalamunda.  
**6WT—** The Grove, Wembley.

## Territories

- 1RF—** Heard Island.

## DELETIONS

- N.S.W. VKs** 2FR (now operating under 3SV), 2PP, 2SD (now operating under 1SD), 2WO (now operating under 4XH), 2AGN (now operating under 3NV), 2AJX, 2AKC.  
**Vic:** VKs 3AM, 3DY, 3OR, 3PN (now operating under 1PN).  
**QLD:** VK4ZU.  
**S.A. VKs** 5LZ (now operating under 3FK), 5TS (now operating under 3TV).  
**W.A.:** VK6FX.

## WAS IT YOU?

### An Open Letter to a Ham

Dear OM,

Yesterday afternoon I heard you on —Mc. I know it was you for I've known you for years and I recognised the voice. You put your carrier on and off several times during twenty minutes, you counted, you said "hullo test," you whistled, you muttered something to

someone else in the shack, but not once did you give your call sign. Even assuming that in that you were not committing a breach, what have you against your call sign? Don't you like the sound of it unless from a DX station? Doesn't it make a good "test" pattern on your c.r.o.?

Do as much of your testing as you can on a dummy, OM, and when you must test on the air, give your call. You may not have meant it that way, but what you did yesterday afternoon sounded like deliberate flouting of the "regs" coupled with a deliberate attempt to fool the monitoring station. Don't do it, OM! Whether you mean it that way or not, it's a pretty poor show. There's no room on the Ham bands for the anonymous signal.

—73, VK6WZ.

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Compiled by J. K. RIDGWAY, VK3CR.

## NEW SOUTH WALES

Activity generally on the v.h.f. bands has been mainly confined to the 144 Mc. band. A direction finding field day was held and won by 2AAA under the guidance and control of 2OK.

The annual election of officers took place with the following results: 2ANF, Chairman of Group and Country Liaison Officer; 2AOA, Vice-Chairman and Convenor of Management Committee; 2AUZ, Secretary; 2HL, Field Day Organiser; 2OA, Contest Organiser; 23Q, Publicity Officer; 2HL, 2OA and 2MQ, also constitute the Management Committee; 2WJ, 580 Mc. Co-ordinator.

The chairman, 2ANF, has just spent four weeks in Perth during which he has investigated a little more enthusiasm for the v.h.f.s among the country Hams. During his trip he visited the following stations: 2BT, 2TA, 2WH, 2NS, 2APF and 2IL also met 2GU, 2AMB and 2AEL. It was made quite evident that the activity and enthusiasm in the Western and South Western Zones of N.S.W. are quite high and with the state of building going on, some very reliable inter-country contacts are assured.

50 Mc.: Activity somewhat lower than usual with 2ADT, 2RT, 2VW, 2NP and 2HE among the most consistent.

144 Mc.: Most activity has been confined to this band with some outlying contacts between 2WH, at Forbes, and 2ANF, 2ATO, 2AUZ, and 2ABB, all of Sydney. 2ANN, also of Forbes, established his first contact with 2ANF of Sydney. 2NS and 2WH are heard most consistently in Sydney during the evenings. 2NS is building a new final and cascade converter, 2WH also building a new cascade converter. 2GU of Gosford is now on 144 Mc. and puts a good signal into Sydney.

880 Mc.: 2HL, 2VW, 2AUZ, 2DF, 2ABZ and 2WJ most active on this band with 2VW trying a new many-stacked co-axial array.

At the last V.h.f. Group meeting it was proposed to conduct a Statewide Field Day Week-end (Eight Hours' Day, October) in co-operation with the Gladesville Radio Club with all Sydney stations and country stations out on the major mountain tops. In this respect, a group headed by 2HL with 2NP and Cec Cronin in the party went to Barrington Tops, many miles

north of Sydney and succeeded in making contacts with Sydney under the most trying conditions.

## VICTORIAN V.H.F. GROUP NOTES

Results of the Field Days Contest are as follows—Portable Stations Section: 1st, 3GM, 238 points; 2nd, 3AGH, 214 pts.; 3rd, 3FO, 186 pts.; 4th, 3JO, 106 pts.; 5th, 3AJI, 70 pts.; 6th, 3ABA, 60 pts.; 7th, 3ADU, 28 pts. Home Stations Section: 1st, 3ABA, 45 pts.; 2nd, 3ADU, 28 pts.; 3rd, 3AZK, 5 pts.

3GM receives a 2226 donated to the Group by 3XA as the prize for the portable section, and 3ABA receives an order to the value of £2/10/-. As will be seen from the foregoing, only ten logs were sent in, whereas more than three times that number of stations participated and it was expected that many more logs would have been received. It appears obvious that the majority of stations have no interest in Field Day Contests and it is unlikely that any more will be arranged.

The attention of the Group has been directed towards arranging its exhibit at the forthcoming Exhibition and a committee comprising 3ABA, 3AJG, 3XA, 3ALZ, 3AHD, and 3JO has been formed to handle all the necessary arrangements. This committee has met and some plans formed, but suggestions are always welcome and a need exists for some equipment for display and some assistants to man the stand during the Exhibition. All offers of help would be greatly appreciated and should be directed towards the committee members.

Equipment promised so far includes a 100w. Tx for both 144 and 50 Mc. and a crystal controlled Rx for 144 Mc. A turnstile antenna for each band is being made and enough co-ax lead to feed them has been promised. A 50 Mc. converter or receiver is needed for the complete working model as well as various other pieces of equipment for display purposes.

Ray 2RJ had an interesting contact on 29 mc recently with Russ 2KK, and kindly passes on the following news. Russ expects to be returning to Melbourne about next August when he no doubt will resume his old call of 2KK. His initial contacts from Papua with each State on 30 Mc. during the last DX season were VK5 4BT, 3UL, 2WH, 5MK and 7LZ. Unfortunately

no luck with VK6. The North Eastern Zone certainly led the field for Victoria, as the first two VKs contacted were 3UL (twice) then closely followed by 3APF. We hope that Russ may see his way clear to come along one evening and tell us some of his VK5 experiences.

## WESTERN AUSTRALIA

50 Mc.: Only ones active are 6HK, 6GB, 6DW, 6FC, 6BO, and 6RK. 6GB is threatening to come back on the band. 6FC has a very nice array on 30 and 144, but is troubled by some noise which seems to be coming from the power transformer at the end of the h.v. line from Marrogin. 6HK's new 834 final nearly ready to go.

144 Mc.: 6AG, 6OR, 6KW and 6WT have been on of a Sunday evening. I believe that they have altered sked time to 8 p.m. Also believe I heard 6JS. 6DW has put in a new tank circuit and has silver plated same. 6GB is talking new beams for this band. A couple of the new QX60/40s have found their way into some shacks. One found its way into 6BO's but was taken away again with loving care! Still it was good to have seen one. A new lining in 6HK's shack should make Don feel warmer during the next few months. Home comforts indeed, a lined shack and a pair of 834 radiators!

## 50 Mc. W.A.S.

Certificate Additional

Call	Number	Count
VK3WJ	9	3
VK3WJ	13	3
VK4RY	2	2
VK4HR	4	2
VK4LC	1	1
VK4DW	3	1
VK3PG	5	1
VK3RH	6	1
VK3HT	7	1
VK2AEZ	10	1
VK3A	11	1
VK3GM	12	1
VK3ACL	14	1
VK3ZD	16	1
VK3ABO	8	1
VK2WH	15	1

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Valves, new, boxed, RCA 834s, £1/8/- each.

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# DX NOTES BY VK4CL\*

This month, my own time on the bands being infrequent and having some leave in the Mackay area, most of the material comes from the regular reports of the DXers. Some of them apparently being too inactive to drop a line this month. Please let me have your material by the 25th of the month. All sources confirm that the bands are very flat and not much DX has been about. The main interest to DXers has been about the release of the 21 Mc. Its general release to all continents is in doubt at the present time, as some have heard and worked the odd European, but a DL told me the band had been released over there, so maybe those DXers are not there with official approval. The band survey, with stations worked\*, and times in G.M.T. is given below.

3.5 Mc: 4XJ had a listen on this band (28 Mc. must be bad eh Les?) and heard a few K16, KH6BY had ST. TRK still unable to do anything better than VK and ZL on the band. Why not make a sked with KC6QY Ray? He uses the band.

7 Mc.: The notable absentee has been Radio Pakistan which leaves quite a part of the 1.1 end of the band free for any possible DX. My own observations have shown the band useless for VK or DX contacts. 2AMB has been giving the band some attention and was rewarded with FB8Z and FB8AF. 3CP did not have a very successful month, hearing plenty, but not being able to raise them. Athol lists VY4AA, MD00, HB9H, 9B3AA, KMCC, CCZCNC, ZENP, VQ6GW, TAZFA, PT9GX, ZESK.

\*VH/LA, F.T. Hine, No. 10 (G.R.) Squadron, R.A.A.F., Townsville, Queensland.

## DX C.C. LISTING

### PHONE

Call	No. Ctr.	Call	No. Ctr.
VK3EE	- 10 163	VK4WF	- 16 121
VK4HR	- 12 180	VK4AP	- 8 114
VK3JE	- 3 156	VK4AWW	- 14 112
VK3BZ	- 3 154	VK4DO	- 20 109
VK6RU	- 2 152	VK4RW	- 23 104
VK6KA	- 1 152	VK5MS	- 24 104
VK6KW	- 4 145	VK2ADT	- 13 102
VK3LN	- 11 141	VK2AHA	- 15 102
VK4F	- 21 134	VK6R	- 24 104
VK6DD	- 6 126	VK4RT	- 22 101
VK3JE	- 7 123	VK3IG	- 5 100
VK4WJ	- 17 122	VK3GG	- 18 100

### C.W.

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	- 6 200	VK4RF	- 11 125
VK4HR	- 8 182	VK3JE	- 21 124
VK3FH	- 15 177	VK3V	- 27 123
VK3BZ	- 12 167	VK3EX	- 3 122
VK3EO	- 2 152	VK3JI	- 2 118
VK3CN	- 1 151	VK3PL	- 30 117
VK3SA	- 28 150	VK3UM	- 12 116
VK3CX	- 26 150	VK7LJ	- 24 114
VK4FJ	- 29 150	VK4DA	- 7 113
VK3VW	- 6 143	VK3AA	- 17 112
VK3QL	- 5 142	VK4RC	- 13 107
VK6RU	- 16 141	VK3YL	- 39 106
VK6RX	- 28 140	VK3YC	- 34 105
VK3BZ	- 12 138	VK3HT	- 10 103
VK3FH	- 31 134	VK3AFA	- 14 101
VK3BO	- 33 133	VK3NC	- 19 101
VK3BZ	- 16 131	VK3OA	- 21 101
VK4DO	- 20 129	VK7KR	- 22 100
VK3CX	- 30 128	VK3AEZ	- 35 100
VK4QL	- 36 128		

### OPEN

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	- 4 213	VK2AWW	- 45 115
VK4HR	- 7 206	VK3JA	- 43 114
VK3BZ	- 12 186	VK2ADT	- 43 113
VK3JE	- 12 180	VK4RW	- 52 113
VK4FJ	- 32 173	VK3PG	- 47 111
VK3VW	- 12 171	VK3MG	- 47 111
VK2DI	- 2 170	VK4RC	- 21 110
VK3XX	- 1 167	VK3ZB	- 34 110
VK4EL	- 1 167	VK3ZC	- 34 108
VK4KS	- 24 167	VK3YL	- 11 106
VK6KW	- 13 165	VK3AWN	- 36 105
VK4DO	- 15 157	VK3VN	- 18 104
VK3LN	- 29 144	VK4UL	- 27 104
VK3FL	- 26 143	VK6RJ	- 44 104
VK3MC	- 5 139	VK6PW	- 50 104
VK3VW	- 12 137	VK3KE	- 47 103
VK6DD	- 22 136	VK7KB	- 30 103
VK2AE	- 28 133	VK2TI	- 37 103
VK2AH	- 28 128	VK3RO	- 38 103
VK4WJ	- 40 128	VK6DX	- 34 102
VK3AHM	- 20 125	VK7RT	- 31 102
VK3NS	- 16 123	VK4TK	- 35 102
VK3BZ	- 41 123	VK3GW	- 48 102
VK3JI	- 33 119	VK5HI	- 51 101
VK7TLZ	- 22 116	VK2ACX	- 6 100
VK3VQ	- 46 116	VK7GT	- 39 100

TA3AA, CT1DJ, HL1AA, HK4DF, HZ1FL, so it's there if you can make it. Athol put his T-watter on to work W2FKX. 4XJ spent some time on this band setting amongst the North Americans, also KV4AA, VY4AF, KM5AX and VK1RG, 4QL, by a QSO with CO3BU brought him a lot of country total. At long last HL1AA, KCQCY, ZS6AIA, 20W can't hear anything decent on this band. 9XK heard chasing Vermont and Utah to complete his W.A.S. before he returns South Africa. Managed to get VY4AF and W08YG/KJ6. TRK has been hearing some good signals from North America and KV4AA. Ray heard a few Europeans one morning. KCQCY was the only other station of note for him.

14 Mc.: This band has not produced any reliability as yet. At this QTH the hours of darkness produce a dead band, but there has been some slight but erratic improvement in the afternoons. One morning opening to Europe was observed. 2AMB managed two new ones in ZC4XP and MF1AA. Heard 3CX badly calling EA9DC. 3CP heard some South Americans at 2200z on 13th May. Also heard FB8Z and F1AB in a long QSO early one evening. 4QL did not do much good and lists EA9DC, YS10\*, M1JLK, EA5AF, EA8EM, KV4AA\*, KV4AX. All these in the afternoons and at poor strength. TRK finds this band improving, but erratic in the afternoons. Lists T1PZ, KH6FA/KB\*, F1AB\*, EIAG, E1IT. Said he is doubtful if there is an active station in Zone 2. 4XJ listening Ray, you never know. 5XK landed SUIAD\*, EK1AO\*, FKSBC\*, ZC2MAC, VU4CB\*, KH6G\* (Bonin Islands).

21 Mc.: For quite a few, this band has been watched most closely in an attempt to see how behave, but generally everybody has been disappointed. No stability and sudden disappearance of the stations in QSO. 3CP and TRK reached little reward for their labor. 4XJ found the opening day OK and got action. South America OK. Some of the prefixes worked are W, VE, KH6, KG6, KC6, KG4. 3CP has reached all Ws except VE. The general opinion is this will be a good band when conditions improve.

28 Mc.: TRK and 4XJ found little to hold their attention on this band. The QSL situation has brightened the clouds for some. 2AMB very pleased with one from ZD6D1 and 90W's check went up. 4XJ did ZS1BM, KG4AF, PJ1UF, HS1SS, and KX5AB. 4EL very pleased with one from FPIAG and VK1BS. 4QL improved his with M1SL, M1LK, VK1BS, ZS2X, F9QV/FC, ZC4XP, ZC4KN, FPAAG, FV7YB, and ZS3K, some for 7 Mc. TRK, F3SRA, HG2AT, KC3Z, CO2OE, KX5FK, PJ1UF, EQ5FM, OX3MG (1948). The gen section is a bit vacant, but KV4AA helps out often. For those who are not aware, EA9DC is operating from Iml, and is possibly going to Rio de Oro in July. F07AW, who is HB9AW, is on from Clipperton Island. ZC2MAC on Deception Island does not seem to be heard in VK, but is apparently on the band round 1300z. 9B3AA may possibly be heard soon signing LZ3AA. Belong to 3CP.

The thought for the month comes from TRK's watch on 21 Mc., and is: "Because we have a new band, it's not open season to break the Gentlemen's Agreement the dividing line being 21.150 Kc."

## "OPERATION BUSHFIRE"

Throughout the district of Victoria, members of the St. John Ambulance Brigade are organising to meet the above emergency, that is an ever present danger during the summer season, Bush Fire.

It is with a view of organising some means of rapid communication during this emergency, that the Amateur Radio members have been approached. It is felt that with their co-operation all services concerned in this emergency may benefit. Transport of vital supplies and requests for personnel can be readily organised and much time can be saved by relaying of urgent messages. Such assistance would have been greatly appreciated during the recent fires. It is felt that with a definite plan in operation, liaison between the Amateur Radio operators and the St. John Ambulance Brigade will have a very beneficial effect.

## ACCURATE FREQUENCY TRANSMISSION RESULTS

New measuring equipment at the Checking Centre enables the frequencies to be given at the beginning and end of the one-minute key-down period. In the following lists the first correction given is the beginning of the period. L = Cycles low; H = Cycles high.

3500 Kc.	5 L.	8 L.
3530 Kc.	50 L.	60 L.
3560 Kc.	16 L.	20 L.
3590 Kc.	16 L.	22 L.
3620 Kc.	16 H.	12 H.
3650 Kc.	24 H.	24 L.
3680 Kc.	45 H.	52 L.
3710 Kc.	8 L.	2 L.
3740 Kc.	56 L.	68 L.
3770 Kc.	5 L.	1 H.
3800 Kc.	38 L.	40 L.

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# Operating Awards and Diplomas

COMPILED BY RAY JONES, VK3RJ,  
FEDERAL QSL MANAGER

The following list, whilst not complete, may prove of assistance to members. Australian and New Zealand Awards are not included herewith.

Great Britain, B.E.T.A.: Proof of contact with 25 of British Dominion Call Areas and 15 British Colonial Call Areas. Apply R.S.G.B. Charge: 2/6 stg.

Great Britain, H.B.E.: Proof of hearing above areas. Apply R.S.G.B. Charge: 2/6 stg.

Great Britain, W.B.E.: Proof of contact with one Empire station in each of the five Continents. (North and South America counted as one.) Apply W.I.A. Charge: 2/6 stg.

Great Britain, Empire DX Certificate: Proof of contact with 50 Empire Countries on 14 Mc. A separate Certificate issued for contacts with 30 Empire Countries on all bands other than 14 Mc. Apply R.S.G.B. Charge: 2/6 stg.

U.S.A. (I.A.R.U.), W.A.C.: Proof of contact with one station in each of the six Continents. Apply W.I.A. Charge: Free.

U.S.A., W.A.S.: Proof of contact with one station in each of the 48 States of U.S.A. Apply A.R.R.L. Charge: Free.

U.S.A., B.C.C.: Proof of contact with 100 Countries since 15th November, 1945. Apply A.R.R.L. Charge: Free.

Germany, W.A.E. (Worked All Europe): Details on request to this Bureau. Too lengthy to publish in full. Apply D.A.R.C. Charge: 10 Reply Coupons.

Spain, Espana Diploma: 125 contacts with EA stations including three with each of the nine districts. Since 1/1/52. Apply U.R.E., Madrid. Charge: Free.

Italy, W.A.I.P. (Worked All Italian Provinces): Contact with 60 of the 93 Italian Provinces. List held at this Bureau. Since 1/1/49. Apply R.C.A. Ravenna. Charge: Free.

Cuba, Worked Cuba Award: Contact with 7 of the 8 radio districts of Cuba. List held here. Apply W.I.A. Charge: Free.

Brazil, W.A.A. (Worked All America): Contact with 45 countries in the Americas. List held here. Apply L.A.B.R.E., Rio de Janeiro. Charge: Return Postage.

Denmark, OZ-C.C.A. (OZ Cross Country Award): Contact with 15 of the 23 radio districts in Denmark on points basis. Details held here. Apply E.D.R., Aalborg. Charge: Five International Coupons.

France, D.U.F.: Four sections. Contacts with stations of French Union. (1) 3 Conts., 5 Countries; (2) 4 Conts., 8 Countries; (3) 5 Conts., 10 Countries; (4) 6 Conts., 16 Countries. Each to include Europe as one Continent. Stations may be obtained progressively. List of Countries held here. Apply W.I.A. Charge: Free except 4th section which is a medal; fee 700 Francs.

France, D.P.F.: Contacts since 1/1/51 with 16 of the 17 Provinces of France. List held here. Apply R.E.F. Charge: Return Postage.

Chile, W.A.C.E.: Contact with each of the seven radio districts of Chile. Apply R.C.C., Santiago. Charge: Free.

Sweden, No Title: Post-war contact with each of the seven radio districts of Sweden. Apply S.S.A., Stockholm. Charge: Ten Reply Coupons.

British East Africa, W.E.A.: Contact with one VQ3, one VQ5, and three VQ4 stations in

any year (1st Jan. to 31st Dec.), gives entitlement to an Annual Certificate. Five of these Annual Certificates plus one VQ1 contact makes the final award (W.E.A.). Claimed to be something special in awards. Apply R.S.E.A., Nairobi. Charge: 5/- each Annual Certificate, and 5/- for fee of W.E.A.

Canal Zone, No Title: Contact with ten different KZ stations. Bigger and better Certificate for contact with 25 different KZ stations. Apply C.Z.A.M.A. Charge: Free.

U.S.A., W.A.Z.: Contact with each of the 40 radio zones of the world. Apply "CQ." Charge: Free.

Applicants for any of the above awards are requested to ensure that all conditions have

been fulfilled before application is made and that the prescribed fee is enclosed with the application. Registration of all verifications is recommended. It is also essential that the application be made direct to the authority listed for each award.

In the past many applicants have taken the easy and oft-times cheap way out by forwarding applications for overseas certificates to the W.I.A. While full information on any award will be given to any applicant, the handling of any application, other than those listed above as W.I.A., cannot be undertaken. Your officials, who gratuitously give their time and energy to institute affairs, have sufficient legitimate duties to perform, and all misrouted applications will, after publication of this list, be returned to the senders.

## VK5WI STAND AT EXHIBITION

### TECHNICAL DESCRIPTION

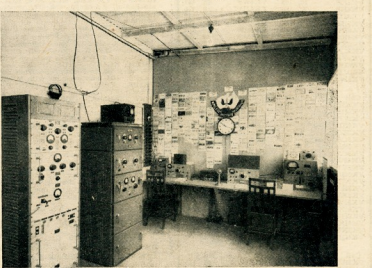
Bands of Operation: 7, 14, 50, and 288 Mc. 7 and 14 Mc. Transmitter: RF—6V6 xtal osc., 807 buffer (doubler on 14 Mc.), and 813 final. Audio—crystal mike to 6S17 and 6J5 speech amplifier, 6V6 driver, pair 813s in Class B as modulators. Plate and screen modulating 813s final amplifier.

This transmitter was a converted Philips' broadcast transmitter and was converted by members of the Exhibition Committee. It made a very attractive piece of equipment and there was much favourable comment from members of the public. The transmitter was capable of running inputs up to 300 watts, but to comply with Regulations, the input was reduced to 100 watts and ran at this point for the duration of the Exhibition.

Receiver: 7 Mc. for both 7 and 14 Mc. Antennae: 7 Mc.—The popular 65 ft. "all band" antenna, fed 23 ft. from one end with 300 ohm ribbon. 14 Mc.—Two element close-

by scores of motors driving the many working exhibits and extensive use was made of official 50 Mc. link stations in the suburbs. Stations performing official link duty were VK5ZL, VK5HD, and VK5WL where signals were received on 7 or 14 Mc. and beamed to the Exhibition on 50 Mc. It was found that these strong signals completely "killed" the noise and reception was as good as could be expected at any average suburban location. The 288 Mc. link was used on two occasions where there had been a temporary breakdown on 50 Mc., with similar results.

Public Address System: A small public address system was installed with a loudspeaker outside the building. The mixing circuits (seen between the two ARTs in the photograph) allowed operators to relay to the public both the incoming and outgoing signals in order that they may hear both sides of the conversation. There was also a third microphone enabling operators to make announcements to the public.



spaced rotary beam mounted on a 30 ft. steel tower. This was also fed with 300 ohm ribbon to a suitable quarter wave matching section.

50 Mc. Band: Transmitter, RF—VT52 xtal osc., 807 doubler, 807 doubler, 6J5 doubler, pair p.p. 634s final amplifier. Audio—Crystal mike to 6J7, 6J5, pair 6J5s speech amplifier, pair 6L6s sub-modulator driving pair T240s in Class AB1 modulators. Plate modulating the pair of 634s. Power input, 100 watts. Receiver: Crystal controlled converter feeding into another AR7 receiver (shown in the photograph at the far left of the operating table). Antennae: Four element rotary beam, mounted above the 2 element beam on the 30 ft. steel tower.

288 Mc.: Receiver only, consisting of 6U8 super regen detector and 6J5-6V6 amplifier. Installed for intercom, purposes only and for use in case of emergency. The antenna was a 3 x 3 beam.

Link Stations: In practice, it was found that very few signals, other than powerful locals, could be received direct due to noise generated

Other Equipment: Oscilloscope—Seen on top of the 7/14 Mc. transmitter. Frequency Meter—Seen on extreme right of operating table. Panoramascope—Seen on top of the Frequency Meter and beneath the 288 Mc. receiver.

Duration of Exhibition: The Exhibition opened on 7th March, 1952, running for eight weeks, closing on 3rd May, 1952. During that period, operators made 576 contacts, a number of stations being worked several times. The following analysis (excluding VK5) may be of interest to readers. The figure in brackets indicates the number of individual stations contacted in that District: VK1 (1), VK2 (62), VK3 (41), VK4 (19), VK5 (12), VK7 (10), VK9 (2), ZL (7), VS1 (3), VS7 (1), VK6 (2), KH6 (1), KG6 (1), JA2 (3), JA5 (1), HB9/MM (1), W4 (3), W5/VK4 (1), making a total of 171 individual stations excluding VK5.

QSL Cards: Special souvenir QSL Cards were printed for the S.A. Division by the S.A. Government Tourist Bureau and a card will be forwarded to every station contacted.

## SUBSCRIPTIONS

● Please pay your Subscriptions PROMPTLY when due. Failure to do so may result in the loss of valuable issues of "Amateur Radio." High costs of production make it necessary to limit the number of extra copies printed each month.

# FEDERAL, QSL, and DIVISIONAL NOTES



Federal President: G. GLOVER (VK3AG); Federal Secretary: G. M. HULL (VK3SZ); Box 2611W, G.P.O., Melbourne.

## FEDERAL IT'S FREE!

By courtesy of Mr. Philip S. Rand, WIDBM, of the Laboratory of Advanced Research of Remington Rand Inc., South Norwalk, Conn., U.S.A., a quantity of booklets on Television Interference have been shipped to the Wireless Institute of Australia on application for free distribution to members.

The booklet consists of over 100 pages of the most comprehensive articles on t.v.i., and its causes and cures, that has ever been seen in this country under the one cover. Mr. Rand has excelled himself as editor in producing a complete up-to-the-minute booklet to assist the amateur and engineer to avoid the pitfalls of t.v.i. and how to go about curing the trouble when it exists.

Although Amateurs in Australia are not confronted with these problems as yet, the Amateur with foresight will provide NOW for the elimination of television interference insofar as his transmitter is concerned because as sure as the sun rises in the east and sets in the west, the Australian Amateur will, in the not too far distant future, have to contend with the t.v.i. problems that beset the American Amateur and are at present causing great concern to the British Amateur.

If you as an Amateur member of the W.I.A. are interested in meeting these problems before they reach out and "snag" you, write in to the Federal Secretary, W.I.A., Box 2611W, G.P.O., Melbourne, enclosing a 4d. stamp to cover postage and a copy will be reserved for you and sent on when the shipment arrives. Application will be filed and numbered in strict sequence as received and copies will be sorted out in this order until supplies are exhausted, so be early.

## EMERGENCY NETWORKS IN CIVIL DEFENCE

If you have been following the activities of Federal Council and Federal Executive over

the past year or more, you will know that your Divisional Council has a mandate to forward to F.E. a chart showing the organisation set-up of emergency communications in your Division. This information is required for the Minister for Civil Defence so that he will know where the Amateur networks can be drafted into the civil defence requirements.

You have already been told in these columns of the interest displayed by the Minister in the potential worth of the Amateur Movement in any civil defence scheme, and his express desire that he be given a document outlining the complete Amateur system as at present in existence in the Commonwealth of Australia.

F.E. cannot complete this document if you—the man with the equipment, the inclination for emergency communications, and the desire to serve your country during times of emergency—do not advise your Division regarding what equipment you have on hand, the area in which you could operate, the network in which you could participate as an active operator, and details of future equipment you intend to construct that could be useful for communications services in the field at a moment's notice.

Admittedly, defence projects have been somewhat curtailed, but this does not forbid the Institute from continuing with its present emergency communications networks and expanding them to encompass the entire country twenty-four hours a day if necessary.

This is the greatest opportunity the Australian Amateur has had offered to him to show the very highest authority what an Amateur communications network can do when called upon to function. But if you don't initiate the greater envisaged scheme by taking an active interest in constructing suitable equipment and having it ready for immediate service, you will find that other emergency communications systems will be doing the job rightfully belonging to you.

Your Federal Council knows, you know, in fact everybody knows, that you as an Amateur will be ready to offer your services in any

capacity. But that is not good enough! Besides your services you must be ready to offer your equipment too!

Remember, the Amateur's greatest chance to maintain a wartime Civil Defence Network in conjunction with other Services lies in the field of v.h.f.

Already some Divisions have recognised this fact and are encouraging Amateurs all over the country to interest themselves in v.h.f. activities; asking them to get on the air on the higher frequencies; organising field days in attempts to pass messages over great distances by relay stations at strategic points throughout the States. Some of these networks are functioning NOW and growing in strength every day of every month. But many more are wanted, especially in the country areas.

The future of emergency networks lies in your own hands; the privilege of continuing to conduct your unique hobby whilst serving a national need is tightly linked with it. Because you may say you are away out in the bush and cannot be heard on v.h.f. is fast becoming a myth. You—the country man—are the key man in a nation-wide network.

Do today what you will criticise others for having lost tomorrow!

## FEDERAL QSL BUREAU RAY JONES, VK3RJ, MANAGER

Johnny Jones, VK3RG, who has been in England since July, 1951, attending R.A.F. Staff College, is due back in VK in July. Shortly after his return it is likely we will hear him under a VK3 call sign.

A Japanese correspondent states that by the end of the current year Japanese stations will be back on the air.

The Danish Society E.D.R., which is presently conducting its 25th year Jubilee celebrations advises visitors that the "grand finale" of the festivities will be held on 23rd August at "Haandvaerkforeningen" in Copenhagen. Vis-

## REPORTAGE

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tors will be welcome, and are advised to get in a little practice on how to ask for a rail or ferry ticket to the above locale.

Many attractive and concise cards have passed through from QZ1TA, H.R.H. Prince Talal Al Saud with QTH: The Royal Palace, Riyadh, Saudi Arabia. A real posh job in gilt on a waterworn board. A spare is on hand addressed to VK3AW. Rightful owner can have same on application.

The R.S.R.R. (Radio Society of Southern Rhodesia) advise that their QSL Bureau QTH has been changed from Bulawayo, to Box 2377, Salisbury. This society, which now has almost 100 members, expects to be accepted into the I.A.R.U. very shortly.

The QTH of VK9GM is George Meaton, Dept. Civil Aviation, Norfolk Island.

Russ Coleston, VK9XK and VK3XK, expects to return to Melbourne in August. During his comparatively short tour of duty in Papua Russ has run up 120 countries. In the recent D.E.R.U. Contest Russ was much sought after and ran up 1500 points in the Senior. On 50 Mc. Russ contacted all VK States except VK6.

Bob Black, VR4AF and VK4QZ, writes interestingly under date of 20th May, from Savo Island, British Solomons, to where he moved from the Trobriands. At the latter location he signed VK4QZ/P and VK4QZ/P.9. He states: "This delightful tropical island is actually a volcano and feels like it. The call VR4AF is a portable station which will be operated on various islands around the Solomons. I am visiting little-known Polynesian atolls in the group which are visited by white men about once a year (Savo is Melanesian). The malaria hunt is still on, but the end is in sight—I mean our return to VK2. We have another five weeks to go. Conditions here are pretty good and the old Type 3 Mark II is doing nicely with a car battery. Although QRM from Ws and expatriate Ws in the Pacific is heavy, I manage to keep my skeds. Zls are very strong, but the VKs not good on the north side of the old volcano. The QRN in the tropics is not a patch on the QRM in the city on v.h.f. bands, but the QRM and bad manners of the impatient leaves a lot to be desired. I worked 250 contacts from the Trobriands—no Europeans or Africans—but was not out after DX. Enroute to the Trobriands I met Geoff VK9CW, and Maurice VK4T Black, VK3XK, at Samarai. He has a lovely site on a hill. One contact made was with a research station on an ice floe at Juneau, Alaska. Have made a few 3.5

Mc. contacts both from the Trobriands and from here—all Zls, but have heard Ws. The antenna in use here gets itself tied to the top of a coconut palm at the other end. I don't use an earth."

From the D.A.R.C. "Please notice to your information: German authorities have issued all DL calls to German nationals (DL1, DL3, DL6, DL7 Berlin), including DL9ZZ. Reserved for Allied Forces are DL2 DLA, and DL5. Not in official use is DL4. The calls will begin with DJ1AA and will be continued as usual."

A young lad—the son of WNKTNG, of 136 North Stonewall St., Rockhill, South Carolina, U.S.A., seeks a pen pal in Australia. His name is Ed Sanders, and he is 12 years of age and hopes to get a license of his own very shortly. You married guys pass this on to your hopefuls.

Felix Franchette, ex-FK8AC, at present on furlough in France, writes under date of 20th May, to state he arrived safely after a sea trip of approximately two months. Felix states that it is almost certain that he will return to FK3 for a further tour of duty commencing 1953. Hopes to get an F license to cover his year in France, but presently is rehabilitating himself and family and trying out a new 11 h.p. Citroën. Notices a big upward trend in the cost of living in France from his last home visit.

Bill Storer, VK2EG ex-VK1BS, has got solidly behind the job of replying to VK1 QSLs—so much so that he will not be able to get on the air as VK2EG for some time and until he shakes down into a permanent address. Writing under date of 31st May, Bill makes some enquiries as to certificates and states that a couple of overseas DX men have made enquiries of him regarding ex-VK1VU. Requests my assistance regarding the latter!! I refer you to previous parts in these notes Bill. I have washed my hands of this guy as a hopeless task.

## NEW SOUTH WALES

The May meeting of the N.S.W. Division of the W.I.A. was held at Science House on the 23rd under the chairmanship of the President, Mr. John Moyle. The office-bearers for the current year, including some appointed earlier, were announced as follows—President, J2U; Vice-Presidents, 2GW and one to be elected; Hon. Sec., 2EO; Treasurer, 2RX; Assist. Hon. Sec., 2OA; Class Sec., 2AYE; Class Supervisor, 2BF; V.I.U. Liaison Officer, 2XU; 2WI Coordinator, 2JF; QSL Officer, 2VC; Bulletin Despatch Officer, 2PV; Div. Traffic Manager, 2GW;

Div. Sub-Editor, 2AYP; Hon. Auditor, 2AND; Country Liaison Officer, 2RA; Fed. Contest Committee, 2RA, 2XU, and one to be appointed, to take the place of the late Wai Ryan.

The President read a letter of sympathy to Mrs. Wai Ryan sent on behalf of the Division following the death of her husband, VK2TH, from a stroke on the previous Friday. Wai's funeral was attended by a large number of people including more than fifteen VK3 Hams as befitted so outstanding a member of the Division. The meeting stood in silence for a minute as a mark of respect to one who worked untiringly for the W.I.A. for so many years.

The Adam's trophy winner was announced. It will be remembered that this was donated for the best article in "A.R." for the year emanating from a member of the N.S.W. Div. It goes this time to 2DG for his article on the "Q" Multiplier.

Refutation of agenda items passed at the Federal Convention was set down as the main business of the evening and ratification or otherwise generally followed the original voting instructions given to the delegate (Vaughan Wilson) at a meeting before the Convention.

The meeting was then opened for general business and amongst the matters discussed were the following: A review of motion by Wai Nye that all benefits of W.I.A. membership, including "A.R.", cease forthwith for unfinancial members. This brought forth some lively discussion which promises to be even more lively at the next meeting when the motion will be put. The question of pulse modulation was brought up by 2ASR. The reason for its deletion from Amateur privileges in the recent circular from the F.M.G. Dept. opening the 21 Mc. band will be followed up.

The lack of Amateur co-operation in checking the accuracy of the monthly prediction charts was raised. These charts are supplied on the understanding that data would be forthcoming from the Amateurs and it was resolved to organise the necessary co-operation.

What proved to be the most interesting item of the evening was an impromptu talk by two visitors fresh from Macquarie Island, Bill Store VK1BY and Zed Jeffrey—a radiophysicist. Once they were set going by a few leading questions they had the meeting really interested and everybody was disappointed when the meeting had to be terminated owing to the lateness of the hour. We could do with a continuation on some later date. (2GW).

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## WESTERN SUBURBS

2AAB has acquired a bug. 2AXZ is now heard with a fine signal, the new reg. power supply is doing a good job. 2ABO operates all bands except 30, new antennae being designed. 2AHC still has RF problems, but again, soon be operating other bands. 2AGX occasionally misses monthly meeting, nevertheless quite active. 2KH is on a 20 little more than 2000 ft. hill, but has a good antenna, also does 2APT, but the lack of DX!!! 2ANC a busy boy, what with the beam and the junior op's messes. 2AHU heard on rare occasions, but has a good antenna. 2AHC and 2ARA all busy on the antenna problem. 2QP heard quite often, also interested in beams but time is at a premium. 2ID heard on 21 and 20, but not on 30. 2AHC has a good antenna. 2AWU, 2ABO and 2AAB. 2OQ not heard this month, possibly still busy with the house. 2FMC has a beam almost on the ground, but works DX. 2DZ has a good antenna, garden and a good antenna. The Burwood Road Club is a virile organization which meets at Greenwood Hall, Liverpool Rd., Enfield, each Tuesday night. It desires new members, and will be welcome, and bring your friends along too.

21HR still incident in the bush. 21HR has got himself engaged, congrats. 21N attempted to mod. 21N with desired result. 2JT now operating the wheel of a car, too busy for Ham Radio. 2AER and 2HX heard infrequently these days, must be a reason. 2AGU is in the bush. 2AMJ was heard again recently, friends will be pleased to learn that Jack is getting around a little again on the two legs, we hope it will be even more speedy Jack. 2S1, an old timer we feel, heard regularly after quite a spell, nice work Roy. 2BD off to VK7 on leave, erecting beam.

### NORTH SHORE ZONE

Harold 2AQP preparing ground for erection of beam. Nice to hear John 2ANF again on the air from his home QTH after a month's holiday in the Western Zone where he has given the 144 Mc. beam station a rest. The 2AQM has moved into new home and pleased to find that the location is not as bad as was feared. The 2AQN and 2AND expected to be active on the 144 Mc. soon. Stationed right over the cascade R. Horrie 2XHL heard on 40, had mod. trouble, so is building a c.r.o. 2AYP has heard 2AQM on 40, 2AQN, 2AQM and 2AQN. Percy 2QG dropped in for a yarn on his way to Sydney on business what a man!! Jeff 4XJP put in a day looking over gear and yarning with 2AQM on 40, 2AQN, 2AQM and 2AQN. Dropped in to say good bye with YF on his way back to VK4. Geoff 3AGF holding off in Sydney and looking forward to trying 2AYP's 144 Mc. beam. Heard 2AQM on 40, 2AQN and 2AQN in this area heard on new 21 Mc. band working Ws at the time. Dave 2EO only heard at broadcast time these days on 40 mc. What has

Of interest to most Hams: Bob Black, VK2QZ, is now operating under new call VR4AF and is on most nights on approx. 7030 Kc. Understand Bob will be a new country to most.

## SOUTH WESTERN ZONE

Harold 2GU at Canberra was heard by John 2AMV at Forbes on 144 Mc., nice work John and Harold. 2AKF heard on 80 with good sig. Stewart 2PL active on 40, has Command Tx 7000 Hz. 2GKZ heard on 40, 60 and 80, at Leeton, is a new call in this zone, putting out a good signal with 15w. input, hearty welcome to the ranks of Hams. Ray. 3OY active on 40, 60 and 80, has a fine antenna system on 40 and 80, building Tx for 20, 15 and 10 m. Jim 2TC heard with f.b. sig. on 80. Ross 2PN heard on 40 mx, says it is too cold to work now, will try again later. 2GJW heard on 20 and 40 m.c.w., getting among the DX. 2GQ trying 21 Mc. using a Type 19 and v.f.o.. 5AG7 tripler, 807 buffer and 834 p.a.; have an 832 p.a. which may say they are too high at present. Widespread is portable.

2RM active on 40 and 80 mx. The elub at Duntroon has about 25 members at the moment. The Tx runs about 35w. on 40, and 80w. or 80 mx. The other gear used is an 11 tube super, also 6 tube super. Antenna 134 ft. long and 40 ft. high. There is also a workshop fitted out with all the necessary test gear plus a 3-inch c.r.o. and freq. meter. Gerry reports that accurate frequency checks will be gladly given to anyone requiring them. 2OJ, Albury, heard with an f.b. signal on 80 mx. 2APP heard with a good signal on 40 mx.

## NORTH COAST AND TABLELANDS ZONE

Doc 2LH had a pleasant stay in Canberra where a minor hamfest was held among the local together with John 2ANF and Hugo 2WH. 2ADE, 2UC, and 2AHI on 8 mx with 2LR rapidly assembling equipment. Most North Coast boys are active on 80 mx and many daylight contacts are now being made. Signs of 2LH's night work are now heard from 2LH, 2LR, 2UC, 2WH, 2RK, 2JC, 2AH, and quite a few others. Geoff, junior op of 2LR, spent a pleasant time with Jim 4HZ, has developed an

VALE—WAL RYAN, VK2TI

On 16th March of this year, Wal Ryan, VK2TI, joined the ranks of silent keys at the age of 47 years. His record of service, extending over nearly 28 years, virtually traces the progress of the N.S.W. Division from its infancy to its present status. It is difficult to estimate the value of his work during some of Amateur Radio's most difficult years. When Wal entered Divisional affairs about 1920, the N.S.W. Division was in a state where, and the Division functioned as the Association of Radio Amateurs. Wal's ambition was to recover the Institute's name and to re-establish it as a bona fide organization. His first showed prominence in the affairs of the old established Waverley Radio Club, and before he withdrew from Institute affairs in 1934, he had held the offices of Vice-President, Divisional Secretary, Federal Councilor, Federal Secretary, Federal President, and Divisional President. In 1947 he was elected as Life Member of the Institute in recognition of his services.

In carrying out his duties he was a terrific worker and a completely efficient one. Many will remember the fine Amateur Exhibition of 1936—probably the best ever held—and a further equally successful exhibit the following year in the Sydney Town Hall.

During the war years, when normal activity had ceased, Wal organised and conducted the Amateur Section of the National Emergency Services—work for which he was highly commended. Not only did he keep the Division functioning, but also the Federal Executive, which was in N.S.W. during the war. Despite these heavy commitments, he found time to entertain servicemen at his home, including many overseas visitors.

Wal Ryan was well known on the air, particularly in DX work. He was an early winner of the A.R.R.L. DX C.C. Certificate. In 1936 he obtained W.A.C., and pre-war was one of the few Australian stations to hold W.A.S. He was always active in the A.R.R.L. DX Tests, being the leading VK competitor on one occasion. V.h.f. work was not neglected—in 1937 Wal ran a pair of 808s on 56-60 Mc. From time to time he was active on every Amateur band.

From his "retirement" he emerged in 1951 to be Chairman of the Jubilee Contest Committee, and organised probably the best VK-ZL Contest ever held. In work of this kind we have not seen his equal. Wal's life was a full one. For his unselfish and unending efforts we will remember him with gratitude and pride. We have no need of a more efficient administrator, and his record will stand as an example to those who follow him.

Amateurs throughout the Commonwealth extend to Mrs. Ryan and family their deepest sympathy. They feel, too, that they owe her a great deal for the part she played in helping Wal to build up his outstanding record.

enthusiasm for portable operation. Grief 2XO had a pleasant holiday trip visiting my shack and finished with a spell at Urunga with Jack 2ADT. "Blue" 2AEU had a pleasant trip to North Queensland, and a visitor to Urunga was the brother of Rod 2ACU, whilst 2FH is planning a holiday at Coff's Harbour. 2PA and 2JK are proposing to carry out portable tests on 144 MC and results are awaited with interest. Al 2U had a visit to the city but was glad to get back to the bush. Quite a few contacts have been made on the new 21 MC band. Peter 2PA being the first to be en-

### HUNTER BRANCH

Despite the bad weather our last meeting was well attended, details of which have already been given over 2WL. The Newcastle Technical College has sponsored a radio club under Max 20T. The Hunter Branch has offered every assistance. A.O.C.P. syllabus has already been supplied by Secretary 25F. Both Varley and President 2CS have attended meetings of the club. Lionel 2CS has completed his new double conversion RX, happy over its performance.

Much discussion is taking place over the chain letter from our Western friends and here hoping that the 2ASJ holidayed around Germany. Ken 2KG is more active lately, been on 80 but not happy about antenna situation. 21S on 40 phone with QRO, but has gone bush again.

2LV is busy at home but is gradually rebuilding. Phil 2ANG back on 20 with a new antenna coupler. Bill 2PJ warming the 807 plates, but not hurting them. John 2DZ building a 5-inch c.r.o. between QSOs on 20. On 2

mx the locals are burning the air across town with their Hunter kilowatts into their 719ds and big pipes. Jim 2ZC is the latest newcomer. The net now includes: 2XY, 2ZC, 2AGY, 2BZ, 2ADT and in the near future 2ASJ, 2XT and 2KG. Bill 2XT trying out various Rx's, plans a super double conversion job.

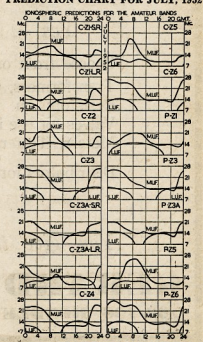
Associates Les Sparke and company are taking advantage of the code practice lessons given at the Postal Institute, which are very warm, while for those interested. Stan 2UY not active, his officer Shorty 2NX has new 813 final. Old 100 WUW is still working. Phobias 2YX recently with a very fine signal. Enr 2PW well under way with new super rig. Max 20T active on all bands, hasn't been able to test 10 mx beam with the poor conditions. 2YS active again, using new double conversion Ks—says "it's not that good." Associate Dan L. looked up VK8s on his new Holiday. Frank 2FX gave the fish a belting at Lake Macquarie.

Dave 2BZ more active on 40 since holidays.  
 Doug 2BZ still on 2 and 6 regularly, occasional  
 10. 2BZ has been on 2 and 6 since 2000.  
 Geo 2A0C has yet another Rx, a double super  
 with 100 Kc. I fs. which is the tops. John 2XQJ  
 has been on 2 and 6 since 2000.  
 visited 2HC. 2VN has been up that way and  
 passed through Maitland and Newcastle on  
 2 and 6 since 2000.  
 new shack, so may be off the air for a while.  
 Joe 2ANL hops up on most bands when time  
 permits. At times Chas Hunt, his radio  
 business and now work at first, may  
 now have more time to get stuck into the code.  
 The new 21 2BZ call seems to be OK. 2TY.  
 2DC. 2BZ. 2BZ. 2BZ. 2BZ. 2BZ. 2BZ. 2BZ.  
 It's open every day to the States despite the  
 winter and bad conditions so prospects are  
 good for 2BZ. 2BZ. 2BZ. 2BZ. 2BZ. 2BZ. 2BZ.  
 Ma by the time these notes appear. WIBC  
 hadn't heard a 21 Mc. sig. gave a CQ, contacted  
 2BZ. 2BZ. 2BZ. 2BZ. 2BZ. 2BZ. 2BZ.  
 phone at times. Nor ZOS has not been active  
 of late. Norm 2ANA. Like many others, is  
 on 40 and threatens to give the band away for  
 one of the higher bands. Bill 2AX is now his  
 own. 2BZ. 2BZ. 2BZ. 2BZ. 2BZ. 2BZ. 2BZ.  
 anyone know where 2CW is hiding, nothing  
 heard of Bill for months. Well, cheers till  
 next time.  
 204-2ANA  
 204-2ANA

## COALFIELDS AND LAKES ZONE

With the onset of colder weather and the falling off of conditions on the higher frequency bands, quite a number of the gang

### PREDICTION CHART FOR JULY, 1952



have commenced work with the soldering iron in an effort to remodel existing gear or to make concrete some of the brain-storms of the past months. Ken's latest creation is a v.f.o. for the 2ANU shack; it runs entirely from 32 volts, both for the heaters and plates. Ken has used a pair of 25L5 tubes as amplifiers and doubler in this unit following the usual osc. (e.c.c.) and isolator. Geoff 2TV returns from holidays, busy rebuilding 50 Mc. rig into a more compact unit; heard on 80 mx.

2ADT spent a very enjoyable week at Urunga helping Crieff 2KO catch some of those famous fish, has added a single 807 to the v.f.o. which provides a 5w. signal on 80 mx without b.c.i. (the pesky). 2KPF trying various arrangements on 144 Mc. with varying success. 2KZK plugging away on 10 mx each week-end. Major 2RU finally got the two mx beam up, mowing them down on two. 2KR active on 40 and 5, while 2GA has been on the latter band. (To see that Cec. behaves himself I take it.) 2EH is plugging away on 80 c.w., but threatens to build a mod. Nothing is known of the activities (if any) of other stations in the zone. There is no need to be bashful chaps. If you are doing anything pass the word along or you might feel neglected.

#### WESTERN ZONE

The visit of John 2ANF has been a great help to v.h.f. country Hams. John's demonstrations of what a good Receiver can do, and how not to build v.h.f. gear have been invaluable. Towards the end of the month 2HQ, 2HL and Ces Cronin paid a visit to Trev in Bathurst. A bit early to say yet, but it looks as though regular contacts with Sydney will be possible on "two" as a number of Sydney stations report hearing Forbes stations. 2MQ, 2ANF and 2ATO have been heard in Forbes, and 2HQ and 2ANF have both been worked by 2WH. QSO with Bill lasted for an hour, both stations losing each other in QSB at times, and that with 2ANF lasting half an hour with copy solid at both ends.

Dubbo Hams are working among themselves on 144 Mc. and 2ACT and 2AMR are looking for outside contacts. Rod 2ACU had bad luck with a beam that wouldn't stay up, but has it fixed now, and ready to crack open the Connamble-Dubbo path or points further out. 2AWY briefly heard on 80 mx with a good sig. Strange how many ZLs, VKs and how few VKs are heard on 8.5 Mc. 2WI broadcasts well received in the west and would like to see

them continued. Ron 2YR, ex-Broken Hill, now at Bathurst and hear whispers of v.h.f. activity. Jack 3OF broke a long silence and showed up briefly on 7 Mc. phone. Another rare one, 2HT. I hear Bill is going to put Eugowra on the v.h.f. map shortly.

### VICTORIA

#### NORTH EASTERN ZONE

Sunny VK2? Well fellows such as it to be will be, but if I never see much rain again I will be satisfied; mud, rain, more mud, oh well at least I had a good rest. Last I remember was 3JC working on 20 mx c.c. converter, ably assisted by 3UJ. 3IC working a few V's, 3J, 3A's, VKIs and thoroughly enjoying himself. 3AL about to become the next zone correspondent; Les has a new 6 mx beam up and the results justify his labours. 3HZ dickering around with the rig, heard Murray say the more controls to put rig on the nose the more he likes it. 3AP7 having fun and games too, 3AT very silent these days. 3KR heard on 80 mx, sorry I had to run out Ken. Ex-zone member, 3DW, also a constant 80 mx man.

#### EASTERN ZONE

All quiet on the eastern front at the moment, judging by the lack of E.Z. sigs on 80, except on Sunday nights, when the boys dust off the rigs and enter into the bull-ring! Have just returned from a cruise over a fair slice of VK3 and VK5 with a short run into VK2, a good trip apart from the fact that it rained every day but one! However, SWQ gave us a right royal welcome and we discovered that the west end of VK5 is not so bad! How's that, Peter? Returning home, we found that J. Pluvius has been on the job and once more, I am flood bound! It's a cruel world.

3IZ has the 348 together again—says it works too. Peter says John is still busy with the crowd 3QZ back from VK4—no dents in the new jalopy either. 3PR springing a new vehicle too—they say the farmers have all the dough, but I wonder? 3SG rather quiet these days, he is alleged to be interested in chickens! 3SS and junior still working on 8 mx gear. 3AGF on holidays in VK4. 3ABF on 80 occasionally. 3AFG still thinking of firing up the rig. 3AMV another quiet type. 3LV a regular on 3650 Kc. with greatly improved modulation. No word from 3ABP since his transfer to Melbourne. 3ADA still at Woomera, what about a

letter to him, chaps? Shouldn't have said that, but I'm a poor correspondent myself! Two of our Bairdsdale associates sat for the A.O.C.P. and I hear that they were OK on the theory but the dots and dashes trapped them. However, it looks like more QRM on 80 soon.

#### CENTRAL WESTERN ZONE

Henceforth and forever more be it known that the Central Western Zone hook-up will be on 3.5 Mc.; in other words we have had 7 Mc., its flighty ways, and endless QRM. In future the frequency will be approx. 3570 Kc. at 1000 hours on the second Sunday of each month. 3ACI paid a visit recently to 3AR's and after inspecting Lin's all-band final tank, decided one would have to go in the output stage of the new Tx. 3AKW now has the mobile rig in operation and it goes very f.b., tune it up well for the September Convention Bill, and clean up on the scramble.

3DP, after testing the DX, has decided to do the right thing and erect a vee beam so that the 100w. rig can get a real kick-off. 3HL floored a Yank by giving him the same report when he reduced power from 1,000 to 25 watts ( Aussie 250 watts please note!). 3YW's Rx is coming along slowly, but is sadly hampered by stocktaking. 3ARM seems to be straying from the straight and narrow as last heard he was deep in conversation with 3DP on astro-compass and the fact that he was only 3-3 chains out after pacing out a line 1 1/2 miles long. 3RR is still v.h.f. happy at Horsham, last heard was gonging 3AGD into putting the 144 Mc. beam up again to contact Dunkeld.

#### GEELONG AMATEUR RADIO CLUB

The two meetings of the above club were well attended by members. Bob 3IC is conducting a more class which is coming on very well. Mr. J. Beckingham brought along a relay controlled two-stage xtal rig, including a modulator and power supply, built on the one chassis. The workmanship of this gear was a credit to Mr. Beckingham. The syllabus for the forthcoming 12 months was finalised and should be an interesting year for members.

### QUEENSLAND

Poorly attended was the monthly meeting, held on the third Friday of May at the Institute of Engineers' Rooms, next to the Civic Theatre, Valley. This fact was noted and commented on by quite a few of the older members.

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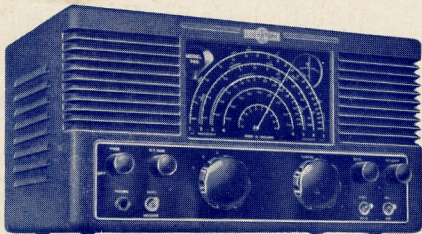
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